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ABSTRACT

This paper describes the Dynamics and Influences of Culture and Environment Program (DICEP) which operated in the Atlanta Public School System from 1972 to 1975. The program began on a pilot basis at one middle school and expanded to include eight middle schools. The selected curricular areas for implementation of the program in all schools were: language arts, mathematics, social studies, and science. Although each school formulated its own behavioral objectives, the major goals for the five years were: (1) to provide in-service activities to help teachers, (2) to develop curricular materials to facilitate personalized learning, (3) to provide paraprofessionals to assist with individualization, and (4) to provide assistance to schools in the selection and use of commercially available multi-sensory media which emphasize concepts and process skills. Other program goals were to increase academic achievement of students and to improve self-concept, motivation, and understanding of their own culture and that of others. Throughout its five years of operation DICEP was evaluated in many ways through various instruments. It was concluded that components of DICEP promoted pupil achievement when these components were properly implemented and consistently pursued over a period of time. (Author/AM)

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RESEARCH AND EVALUATION REPORT

VOL. X, NO. 7 November, 1976

ED142606

EVALUATION OF DYNAMICS AND INFLUENCES OF CULTURE AND ENVIRONMENT PROGRAM (DICEP)

1972-1976

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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I. INTRODUCTION

The Dynamics and Influences of Culture and Environment Program (DICEP) was initiated after the Georgia General Assembly passed a bill during the 1971 session which provided funds for the implementation of the Instructional Assistance Program (IAP). In the Atlanta Public School System, from FY '72 through FY '75, DICEP operated as a part of IAP according to the guidelines set by the State of Georgia Department of Education.

The program began, on a pilot basis, at A. T. Walden Middle School for FY '72 and continued to be implemented there for FY '73. For the FY '74 school year DICEP was expanded to include all eight middle schools, and the program continued as a part of IAP during FY '74 and FY '75 in the middle schools.

During the 1975 session of the Georgia General Assembly, it was decided that the IAP should be superseded by the Compensatory Education Program (CEP). According to the guidelines of the State Department of Education, the funds for CEP could be used for personnel only in grades one through four; therefore, DICEP, in the middle schools, could no longer be a part of the program funded by the State. Thus, the Atlanta Board of Education funded DICEP for FY '76 only.

II. CURRICULAR AREAS

The selected curricular areas in which the needs for pupils in the eight middle schools seemed to be critical were the following:

A. Language Arts — reading, speech, and composition.

B. Mathematics — skills, computation, and problem solving.

C. Social Studies — skills, attitudes, and knowledge.

D. Science — skills, concepts, and knowledge.

III. DESCRIPTION AND ANALYSIS OF NEEDS IN THE SELECTED CURRICULAR AREAS

The needs of the pupils were ascertained to be as follows:

A. Pupils who were below grade level in reading and mathematics needed corrective measures and materials for further learning.

B. Pupils who already read well and had little difficulty in mathematics needed opportunities and materials to develop their full potentials in reading and mathematics.

C. Pupils needed opportunities to express themselves through both oral and written communication.

D. Pupils needed to obtain some basic knowledge about their city, state, nation, and world.

E. Pupils needed to develop problem-solving skills for use in studying social problems.

F. Pupils needed curricular materials and experiences which would foster the attitudes of good citizenship.

G. Pupils needed skills in science including observing, predicting, experimenting, interpreting data, and making hypotheses.

IV. GOALS

Although each shool formulated its own behavioral objectives, the major goals of the program for the five years were as follows:

A. To provide in-service activities to help teachers

1. understand middle school age children,

2. interact more effectively with other members of the teaching team and with pupils, and

3. use appropriate strategies for individualizing instruction and for motivating independent learning.

B. To develop curricular materials to facilitate personalized learning and to interrelate subject matter areas around themes of interest to middle school pupils.

C. To provide paraprofessionals to assist with individualization and to release teachers for in-service training.

D. To provide assistance to schools in the selection and use of commercially available, multi-sensory media which emphasize concepts and process skills.

Through the developmental stages of DICEP, program goals for the pupils remained constant. They were as follows:

A. To increase academic achievement through opportunities for each pupil to work at his own level and rate of learning.

B. To improve self-concept and motivation through daily success experiences.

C. To foster the pupil's responsibility for his own learning and increase independence in work habits.

D. To help the pupil understand and accept his own and other cultures.

E. To develop greater respect and ability to care for equipment and physical facilities.

V. PERSONNEL AND PROGRAM IMPLEMENTATION

The title Dynamics and Influences of Culture and Environment Program, usually shortened to DICEP, stemmed from the belief that curriculum for the "between" years (ten through fourteen) should focus on helping the child to understand himself and others. Important aims of the curriculum included helping the pupil to learn to interact dynamically with his environment and to relate what could be perceived in the immediate environment to a level of making hypotheses and dealing with abstractions.

During the first two years (FY '72 and FY '73) of DICEP, a small team of teachers and paraprofessionals developed and field tested middle school curriculum at A. T. Walden Middle School. Component parts which were developed included preliminary in-service modules for teachers and paraprofessionals, a teacher's resource packet for each unit, and pupils' core modules and skill packets. Multi-media presentations were prepared as an integral part of each component. Additionally, extensive interdisciplinary team planning occurred before the development of each module. In the pod where DICEP packets were tried, the regular teachers gave feedback and suggestions which were considered in making revisions. The learning activity packets were designed to allow a pupil to work at his own pace and interest level. The packets described a variety of activities from which the pupils selected the ones which best fitted their maturation and achievement levels, styles of learning, and interests.

The Dynamics and Influences of Culture and Environment Program (DICEP) was implemented for the 1973-74 school year in all eight middle schools: Coan, Kennedy, King, Long, O'Keefe, Parks, Sutton, and Walden. The focus was on working with sixth grade pupils; however, at Coan, Kennedy, and Sutton some seventh grade pupils were involved.

During the FY '74 school year, a nucleus team was established in each of the eight middle schools. A facilitating teacher was released from some of her teaching responsibilities to serve as the team leader, and regular classroom teachers were involved with DICEP activities as a part of the team. Also, there were assistant teachers and/or clerical aides, provided with IAP funds, who worked in the program in each school. The team worked to provide an optimum amount of personalization and individualization of instruction in terms of the particular needs of the transescent child (ages 10-14). The original pilot team (from Walden) began to function as a central staff and they integrated material from language arts, mathematics, science, and social science into meaningful curricula for the pupils. Additionally, the central team worked closely with teachers and assistant teachers in the eight schools to help them develop a teaming approach and implement programs exemplifying middle school theory.

The Dynamics and Influences of Culture and Environment Program (DICEP) was implemented for FY '75 in the eight middle schools as had been done for the previous year. The DICEP central team members helped teachers integrate materials from the language arts, mathematics, science, and social science around common problems, needs, and interests of

the emerging adolescent along with meaningful activities for the pupil. Teachers also received continuous on-site assistance from the central staff. In addition, nationally developed curricular programs were used with pupils for science, social science, and career awareness. Language arts and mathematics were interwoven to reinforce practical uses of skills. Study skills instruction was also given in laboratory situations.

During FY '75, the teaching teams had a four-to five-hour block of time each day during which activities could be flexibly scheduled. For portions of this time (through learning activity packets, task cards, and contracts), pupils were directed by printed word, pictures, recordings, and by peer tutoring, thus giving the teacher more time for personalized instruction and guidance. As was true for the previous year, a facilitating teacher, regular teachers, and assistant teachers and/or aides were involved with the implementation of DICEP in each school.

For FY '76, DICEP was implemented again in the eight middle schools. The central staff for DICEP consisted of the coordinator for middle school curriculum, five teachers, two assistant teachers, and two senior typists. Also, in the eight middle schools there were thirty-three assistant teachers who worked with the facilitating teacher and/or teachers.

The Research Assistant/Associate assigned to each middle school for FY '76 completed a checklist to help in determining to what extent the program was being implemented. Some of the information from the checklist is included in Table 1.

It can be seen in Table 1 that three of the middle schools had teachers and auxiliary personnel operating on a team basis in sixth, seventh, and eighth grades; three schools had them working as a team in grades six and seven, and two schools had them working as a team in the sixth grade only. The majority of the schools had the DICEP team members working in language arts, mathematics, science, and social studies. There were adequate materials and supplies available to teams for support of DICEP activities in five of the eight schools. The grade levels served by DICEP for curriculum development and staff development were mainly those served by the DICEP teams. Finally, the majority of all middle school pupils were involved in some DICEP activities.

In the final year of operation (FY '76), DICEP emphasized staff development for teachers and the assembly of curricular materials for teachers and pupils. The in-service activities helped teachers increase competencies and facilitated the sharing of ideas and teacher-developed materials. In addition, much effort was devoted to the Individually Guided Education (IGE) model of the Institute for Development of Educational Activities, Inc. (IDEA) which is a Charles F. Kettering Foundation Program. (It should be noted that IGE has been in operation for the elementary schools for a number of years, but there was no IGE for middle schools when the DICEP began. IGE was initiated in the Atlanta Schools in the summer of 1975.) There were several reasons why the DICEP, in the final year of the program, utilized much of its resources in support of IGE. The reasons were as follows:

1. Although DICEP and IGE employ a similar instructional management system, IGE provides a management system for the total school which was not an aspect stressed by DICEP.
2. Since IGE consists of a workable management system concerned with accommodating pupils' individual differences as a way to achieve more effective learning, as well as pursuing a course of continuous improvement, the goals are highly compatible with DICEP.
3. Since the DICEP is no longer funded through the Instructional Assistance Program (IAP), and the School System assumed funding of DICEP for one year only, IGE seemed to offer some promise that the materials and concepts developed by DICEP might continue to be used in the middle schools.

A nationally recognized middle school specialist remarked that it would have been advantageous to middle schools if DICEP could have continued as the middle schools moved into IGE since IGE makes teachers acutely aware of the need for the kind of services which DICEP provided. Table 2 shows each of the middle schools, the number of staff members, the number of staff members who had IGE training (with DICEP working in conjunction with the Staff Development Department) and the percentage of the staff represented. (Actually, all schools and all grade levels were involved in IGE and this was not always included as staff development in Table 1).

TABLE I

SUMMARY FROM CHECKLIST FOR THE DYNAMICS AND INFLUENCES OF CULTURE AND ENVIRONMENT PROGRAM (DICEP)

School	Facilitating Teachers	Assistant Teachers/ Aides	Worked As Team	Discipline in DICEP	Adequate Supplies		Served By DICEP: Curr. Develop.		Served By DICEP: Staff Develop.		Pupil Partici-pants*	Non Partici-pants*
					Yes	No	Yes	No	Yes	No		
1. Coan	2	6										
Grades												
6			Yes	L.A., Math., Sci., S.S.	x	.	x	.	Not Needed		357	54 (EMR)
7			Yes	L.A., Math., Sci., S.S.	x	.	x	.	x	.	372	54 (EMR)
8			Yes	L.A., Math.**, Sci., S.S.	.	x	.	x	x	.	53	427
2. Kennedy	1	4										
Grades												
6			Yes	L.A., Math., Read., S.S.	x	.	x	.	x	.	255	0
7			Yes	L.A., Math., Read., S.S.	x	.	x	.	x	.	253	0
8			Yes	L.A., Math., Read., S.S.	x	.	x	.	x	.	262	0
3. King	2	4										
Grades												
6			Yes	L.A., Math., Sci., S.S.	x	.	x	.	.	x	330	0
7			Yes	L.A., Math., Sci., S.S.	x	.	x	.	.	x	245	0
8			Yes	L.A., Math., Sci., S.S.	x	.	x	.	.	x	348	0
4. Long	1	4										
Grades												
6			Yes	L.A., Math., Sci., S.S.	x	.	x	.	x	.	307	0
7			Yes	L.A., Math., Sci., S.S.	x	.	x	.	.	x	280	0
8			No	. . . .	.	x	.	x	.	x	0	375
5. O'Keefe	2	4										
Grades												
6			Yes	L.A., Math., Sci., S.S., Read.	x	.	x	.	x	.	180	0
7			Yes	L.A., Math., Sci., S.S., Read.	x	.	x	.	x	.	320	0
8			No	. . . . .	.	x	.	x	.	x	0	375
6. Parks	2	4										
Grades												
6			Yes	L.A., Math., Sci., S.S.	x	.	x	.	x	.	160	0
7			No	. . . .	x	.	x	.	x	.	160	0
8			No	. . . .	.	x	.	x	.	x	0	175
7. Sutton	2	4										
Grades												
6			Yes	L.A., Math., S.S.	x	.	x	.	x	.	272	0
7			No	L.A., Math., S.S.	.	x	x	.	x	.	310	0
8			No	. . .	.	x	.	x	.	x	0	377
8. Walden	1	3										
Grades												
6			Yes	L.A., Math., Sci., S.S.	x	.	x	.	.	x	105	0
7			Yes	L.A., Math., Sci., S.S.	x	.	x	.	.	x	69	0
8			No	. . . .	.	x	.	x	.	x	0	169
Total	13	33	Yes-17 No-7		17	7	18	6	12	11	4,638	2,006

*Approximate number.
**To a limited extent.

Key: L.A. = Language Arts.
Math = Mathematics.
Sci. = Science.
S.S. = Social Studies.
Read. = Reading.

TABLE 2

STAFF MEMBERS IN MIDDLE SCHOOLS
WHO RECEIVED IGE TRAINING

School	Total Staff	IGE Training	Per Cent
Parks	31	31	100
Walden	33	22	67
Coan	77	44	57
King	51	27	53
Kennedy	50	25	50
Sutton	58	27	47
Long	49	18	37
O'Keefe	60	19	32
Total	409	213	54

Until FY '76, the curricular materials developed in DICEP were for the purpose of assisting with the processes of learning to personalize and individualize instruction and were not seen as finished products. Since FY '76 was the last year of DICEP, it was deemed important to assemble into more lasting form the printed materials which (over the past three years) had been distributed for use in schools. The fourteen volume sets were placed in the professional library, middle school libraries, area offices, and the like throughout the System. The sets include the following:

List of Volumes	Year(s) of Development
1. Who Am I? Core Units	1971
2. Who Am I? Core Units (revised)	1973
3. Family, School, Community Core Units	1972
4. Foreign Language Modules	1971-1972
5. Moms Aple Pi Mathematics Program - Volume #1	1975
6. Moms Aple Pi Mathematics Program - Volume #2	1975
7. Literature Activities System	1975
8. Core Kit	1975
9. Additional Language Arts Materials	1971-1975
10. Additional Mathematics Materials	1972-1975
11. Multidisciplinary Science Activities	1972-1976
12. Map Skills	1972-1973
13. People: A Study of Cultures	1975
14. Additional Social Studies Materials	1972-1976

VI. EVALUATION AND FINDINGS

Throughout the five years from FY '72 through FY '76 that DICEP has been evaluated, various instruments have been used. In the initial years of the program, a more formal approach was used in that an experimental group of pupils (DICEP) and a control group of pupils were included in the study. At the end of FY '72 the effects of teaching with multi-media packets developed in DICEP versus the textbook method were tested, and the DICEP group using the packets proved more successful. For FY '73 two experimental groups (DICEP pupils) scored higher on two criterion-referenced tests than did the two control groups. However, the gains were not significant at the .05 level.

Also during FY '73, a Student Attitude Scale, the Florida Key (a rating scale), and two evaluation scales were a part of the evaluation. A small number of pupils were involved in the Student Attitude Scale, for this was during the time that DICEP was in Walden Middle School only. The pupils rated by the teachers on the Florida Key were randomly selected by the research assistant and statistician. On the Student Attitude Scale, the DICEP pupils had a more positive rating about themselves, other pupils, teachers, school administration, and the school as a whole than did the control group. On the Florida Key, the teachers of DICEP pupils rated their pupils more positively than did the teachers of the control group. Results of a t-test analysis showed that there was a statistically significant difference at the .01 level in the two groups in favor of the ratings of the DICEP pupils by their teachers. (See Table 3.)

TABLE 3

A COMPARISON OF THE RESULTS ON THE
STUDENT ATTITUDE SCALE AND THE FLORIDA KEY

	No.	Mean	S.D.	Computed t Score
Student Attitude Scale				
DICEP Pupils	50	1.812	.361	1.33
Control Pupils	50	1.704	.44	
Florida Key				
DICEP Pupils	18	3.710	.386	3.27*
Control Pupils	18	3.090	.719	

*Significant at the .01 level.

On the evaluation scales, the majority of teachers and pupils responded positively about the DICEP. Approximately eighty-four per cent of the responses about the program by teachers were positive, and there was an average of seventy-five per cent positive response by pupils.

During FY '74 and FY '75, the Iowa Tests of Basic Skills (ITBS) served as the major instrument for comparing the gains made by pupils in DICEP. For FY '74 the pupils in DICEP and a group of randomly selected pupils in middle schools but not in DICEP were compared. As shown in Graph 1, it was found that for the eleven-months period between the pretest and the posttest, the pupils in DICEP made average gains of seven months in reading, nine months in mathematics, and eight months on the composite test scores. On the same test, the control (non-DICEP) group of pupils made an average gain of five months in reading, seven months in mathematics, and five months on the composite test scores. Thus, the pupils in DICEP made greater gains on the average in reading, mathematics, and composite test than did the control group of pupils.

Additionally, during FY '74, the Student Attitude Scale, The Florida Key (a rating scale), the pupil involvement questionnaire, an observation checklist, and evaluation scales were used for evaluation purposes. Very positive results were found on all five instruments. Results of a t-test analysis showed statistically significant differences at the .05 level in favor of the DICEP pupils on the Student Attitude Scale and on two of the four categories of the Florida Key. The pupils for each group who were rated on the Florida Key were randomly selected by the research assistant and statistician. (See Tables 4 and 5.)

TABLE 4

GAIN SCORE t TEST RESULTS ON THE STUDENT ATTITUDE SCALE

	Pretest			Posttest			Mean	
	No.	Mean	S.D.	No.	Mean	S.D.	Difference	t
DICEP Pupils	339	3.99	6.76	239	8.13	12.74	4.13	0.95*
Control Pupils	234	2.67	9.66	234	5.02	11.66	2.35	0.49

Note: Pretest/posttest data for six schools.
*Significant at the .05 level.

TABLE 5

SUMMARY OF RESULTS ON THE FLORIDA KEY FOR EIGHT MIDDLE SCHOOLS

Dimensions of the Learner	Pretest Mean Scores DICEP N=40	Pretest Mean Scores Control N=29	t	Posttest Mean Scores DICEP N=32	Posttest Mean Scores Control N=29	t
Relating	3.65	3.52	0.59	3.66	3.36	1.50
Asserting	2.96	2.74	1.37	3.17	2.83	1.89*
Investing	2.53	2.20	0.19	2.70	2.17	1.66
Accomplishing	3.33	2.97	1.56	3.37	2.95	1.97*

*Significant at the .05 level.

The pupil involvement questionnaire, designed to gain information as to whether or not the pupils were actually involved in the types of activities that were planned for the program, showed that the DICEP pupils expressed knowledge of participation in the activities exemplifying the program more often than did the control group. The observations were generally very favorable concerning the activities in the DICEP classrooms, and the evaluation scales showed definite strengths and weaknesses of the program. For FY '75, it was not possible to make the same types of comparisons, since all sixth grade pupils in all eight middle schools were in DICEP. Thus, comparisons were made between the achievements of sixth graders (DICEP pupils) enrolled in middle schools and the achievements of sixth graders (non-DICEP pupils) enrolled in elementary schools. Table 6 shows the gains, in months, between the sixth grade elementary and the sixth grade middle school pupils on the Iowa Tests of Basic Skills.

The data for FY '75 are reported in grade equivalent (GE) scores and age achievement quotient (AAQ) scores. It can be seen that the gains in reading, mathematics, and composite test scores were greater for the elementary school pupils. The GE scores and AAQ's reflected this difference in favor of the elementary school pupils. However, the results of a t-test analysis on these differences revealed that there were statistically no significant differences between the gains made by sixth graders in elementary schools and those made by sixth graders in middle schools.

GRAPH 1

PRETEST TO POSTTEST GAINS
IOWA TESTS OF BASIC SKILLS

1973-74

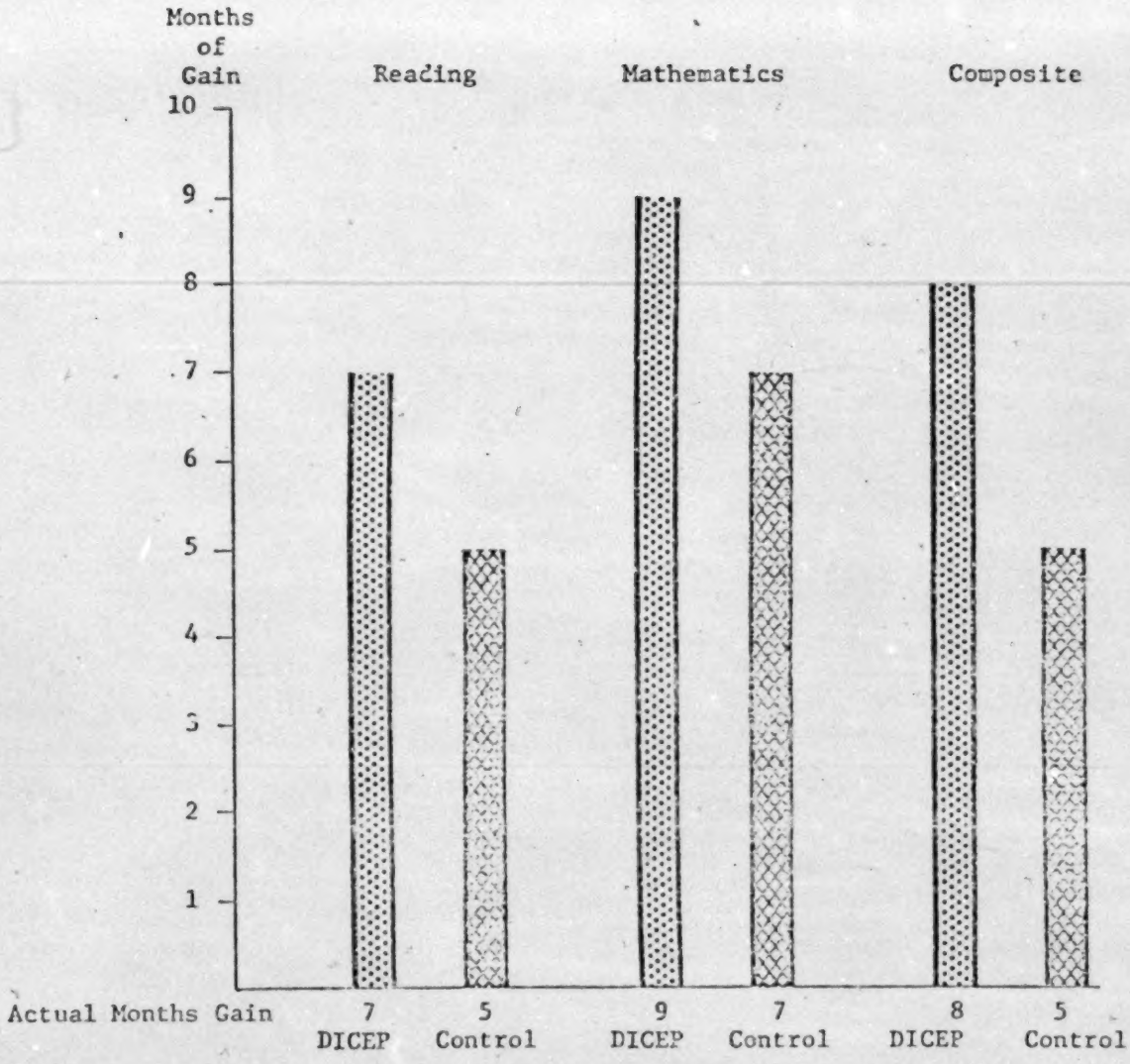

TABLE 6

ACHIEVEMENT OF ELEMENTARY VERSUS MIDDLE SCHOOL STUDENTS
IOWA TESTS OF BASIC SKILLS (ITBS)
May 1974 — April 1975

Sixth Grade (Matched Scores)

	Reading			Math			Composite	
	Elementary	Middle		Elementary	Middle		Elementary	Middle
N	3,962	1,648	N	3,927	1,624	N	3,992	1,672
GE			GE			GE		
74	4.4	4.5	74	4.4	4.5	74	4.5	4.5
75	4.6	4.4	75	4.7	4.6	75	4.7	4.5
Gain	.2	.1	Gain	.3	.1	Gain	.2	.0
t = 1.23 (df = 5608)			t = 1.10 (df = 5549)			t = 1.11 (df = 5662)		
AAQ			AAQ			AAQ		
74	89	89	74	89	90	74	90	90
75	83	82	75	85	84	75	85	84
Gain	6	7	Gain	4	6	Gain	5	6
t = 1.21 (df = 5608)			t = 1.16 (df = 5549)			t = 1.13 (df = 5662)		

Additionally, a frequency analysis was made of gains on the Iowa Tests of Basic Skills (ITBS) for the sixth grade elementary and middle school pupils on reading, mathematics, and composite scores. The results in Table 7 show that (1) over one-half (approximately 51 per cent) of the middle school pupils gained from one month to three years and six months on reading, (2) over one-half (approximately 56 per cent) gained from one month to three years and six months on mathematics, and (3) over one-half (approximately 52 per cent) gained from one month to two years and nine months on the composite test scores. Thus, gains were made by individual pupils and by groups of pupils in the middle schools; however, as was noted previously with the grade equivalent scores, a higher percentage of the elementary pupils did make gains of one month or more in reading, mathematics, and on the composite test scores than did the middle school pupils.

TABLE 7

FREQUENCY ANALYSIS OF GAINS
ELEMENTARY VERSUS MIDDLE SCHOOL PUPILS
IOWA TESTS OF BASIC SKILLS (ITBS)
MAY 1974 — APRIL 1975

Sixth Grade — (Reading)

Gain (in Months)	Elementary (N=3,962) Number	Elementary (N=3,962) Per Cent	Middle (N=1,648) Number	Middle (N=1,648) Per Cent
3.0 — 3.6	12	0.3	2	0.1
2.3 — 2.9	39	0.9	14	0.8
1.6 — 2.2	221	5.5	89	5.4
0.8 — 1.5	917	23.1	295	17.9
0.1 — 0.7	1,078	27.2	443	26.8
-0.6 — 0.0	791	19.9	363	22.0
-1.3 — -0.7	521	13.1	225	13.6
-2.0 — -1.4	219	5.5	131	7.9
-2.7 — -2.1	102	2.5	51	3.0
-3.4 — -2.8	36	0.9	17	1.0
-4.1 — -3.5	26	0.6	18	1.0

Sixth Grade — (Math)

Gain (in Months)	Elementary (N=3,927) Number	Elementary (N=3,927) Per Cent	Middle (N=1,624) Number	Middle (N=1,624) Per Cent
3.0 — 3.6	16	0.4	3	0.1
2.3 — 2.9	83	2.1	11	0.6
1.6 — 2.2	334	8.5	90	5.5
0.8 — 1.5	996	25.3	350	21.5
0.1 — 0.7	1,033	26.3	454	27.9
-0.6 — 0.0	786	20.0	364	22.4
-1.3 — -0.7	409	10.4	225	13.8
-2.0 — -1.4	177	4.5	74	4.5
-2.7 — -2.1	56	1.4	31	1.9
-3.4 — -2.8	17	0.4	13	0.8
-4.1 — -3.5	20	0.5	9	0.5

Sixth Grade — (Composite)

Gain (in Months)	Elementary (N=3,992) Number	Elementary (N=3,992) Per Cent	Middle (N=1,672) Number	Middle (N=1,672) Per Cent
3.0 — -3.6	0	--	0	--
2.3 — 2.9	9	0.2	0	--
1.6 — 2.2	137	3.4	23	1.3
0.8 — 1.5	1,004	25.1	350	20.9
0.1 — 0.7	1,380	34.5	502	30.0
-0.6 — 0.0	872	21.8	473	28.2
-1.3 — -0.7	404	10.1	233	3.9
-2.0 — -1.4	122	3.0	52	3.1
-2.7 — -2.1	43	1.0	18	1.0
-3.4 — -2.8	14	0.3	13	0.7
-4.1 — -3.5	7	0.1	8	0.4

Although the standardized test scores show that elementary school pupils achieved higher scores than the middle school pupils, some facts must be remembered. On a whole, the middle school pupils (sixth grade pupils) were in a school with a large population for the first time. In many cases the middle school pupils transferred from a self-contained situation to one of open space. Thus, the pupils had a period of adjustment to these changes. Additionally, the emphasis in DICEP for FY '74 was on testing the effectiveness of the model, and the DICEP pupils (which included some seventh grade pupils) did score higher on the Iowa Tests of Basic Skills for that year when compared with a randomly selected group of middle school pupils. The emphasis for FY '75 was on how effectively the model was implemented; therefore, all sixth grade pupils were involved in DICEP although it meant there would not be another group of middle school pupils in a similar setting with whom they could be compared.

TABLE 8

IOWA TESTS OF BASIC SKILLS
GE-AAQ BY SCHOOL BY GRADE
APRIL 1973 - MAY 1974 - APRIL 1975 - APRIL 1976

COAN MIDDLE

		GE								AAQ							
		N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
READING	GRADE																
	6	390	4.5	421	4.4	353	4.2	368	3.9	390	82	421	81	353	80	368	78
	7	447	5.0	432	4.9	442	4.4	353	4.6	447	79	432	79	442	75	353	77
	TOTAL	837	4.8	853	4.7	795	4.3	721	4.2	837	81	853	80	795	77	721	77

		GE								AAQ							
		N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
MATH	GRADE																
	6	396	4.7	412	4.9	352	4.3	362	4.1	396	85	412	86	352	82	362	81
	7	458	5.3	426	5.5	439	4.5	341	4.7	458	83	426	83	439	77	341	79
	TOTAL	854	5.1	838	5.2	791	4.4	703	4.4	854	84	838	85	791	79	703	80

		GE								AAQ							
		N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
COMPOSITE	GRADE																
	6	405	4.5	429	4.7	354	4.3	370	4.0	405	83	429	84	354	82	370	79
	7	469	5.1	437	5.2	447	4.5	368	4.7	469	80	437	81	447	76	368	78
	TOTAL	874	4.8	866	4.9	801	4.4	738	4.4	874	82	866	82	801	78	738	79

TABLE 9

IOWA TESTS OF BASIC SKILLS
GE-AAQ BY SCHOOL BY GRADE
APRIL 1973 - MAY 1974 - APRIL 1975 - APRIL 1976

KENNEDY MIDDLE

READING	GRADE	GE N	GE 73	GE N	GE 74	GE N	GE 75	GE N	GE 76	AAQ N	AAQ 73	AAQ N	AAQ 74	AAQ N	AAQ 75	AAQ N	AAQ 76
	6	207	6.1	192	4.5	224	3.9	252	4.0	207	96	192	82	224	77	252	79
	7	246	5.3	241	5.2	261	4.3	253	4.4	246	82	241	81	261	74	253	75
	60							5	2.8							5	65
	TOTAL	453	5.7	433	4.9	485	4.1	510	4.2	453	88	433	81	485	76	510	77

MATH	GRADE	GE N	GE 73	GE N	GE 74	GE N	GE 75	GE N	GE 76	AAQ N	AAQ 73	AAQ N	AAQ 74	AAQ N	AAQ 75	AAQ N	AAQ 76
	6	211	5.0	203	5.6	222	4.2	250	4.0	211	86	203	92	222	81	250	79
	7	253	5.9	253	5.6	257	4.7	254	4.6	253	87	253	85	257	79	254	78
	60							5	3.2							5	69
	TOTAL	464	5.5	456	5.6	479	4.5	509	4.3	464	87	456	84	479	80	509	78

COMPOSITE	GRADE	GE N	GE 73	GE N	GE 74	GE N	GE 75	GE N	GE 76	AAQ N	AAQ 73	AAQ N	AAQ 74	AAQ N	AAQ 75	AAQ N	AAQ 76
	6	222	5.3	207	5.0	227	4.1	253	4.2	222	90	207	86	227	80	253	81
	7	263	5.6	256	5.5	262	4.7	254	4.7	263	84	256	84	262	78	254	78
	60							6	3.0							6	67
	TOTAL	485	5.4	463	5.3	489	4.4	513	4.4	485	87	463	85	489	79	513	79

TABLE 10

IOWA TESTS OF BASIC SKILLS
GE-AAQ BY SCHOOL BY GRADE
APRIL 1973 - MAY 1974 - APRIL 1975 - APRIL 1976

KING MIDDLE

		GE								AAQ							
READING	**GRADE**	*N*	73	*N*	74	*N*	75	*N*	76	*N*	73	*N*	74	*N*	75	*N*	76
	6			285	4.5	244	3.9	268	4.1			285	81	244	77	268	79
	7			272	5.1	297	4.3	246	4.3			272	79	297	74	245	74
	TOTAL			557	4.8	541	4.1	514	4.2			557	80	541	75	513	77

		GE								AAQ							
MATH	**GRADE**	*N*	73	*N*	74	*N*	75	*N*	76	*N*	73	*N*	74	*N*	75	*N*	76
	6			279	4.7	245	4.3	266	4.4			279	83	245	81	266	82
	7			265	5.4	292	4.6	237	4.8			265	82	292	77	236	79
	TOTAL			544	5.0	537	4.5	503	4.6			544	83	537	79	502	81

		GE								AAQ							
COMPOSITE	**GRADE**	*N*	73	*N*	74	*N*	75	*N*	76	*N*	73	*N*	74	*N*	75	*N*	76
	6			285	4.5	246	4.0	271	4.3			285	81	246	78	271	81
	7			275	5.1	300	4.4	249	4.5			275	80	300	75	248	76
	TOTAL			560	4.8	546	4.3	520	4.4			560	81	546	77	519	79

TABLE 11

IOWA TESTS OF BASIC SKILLS
GE-AAQ BY SCHOOL BY GRADE
APRIL 1973 - MAY 1974 - APRIL 1975 - APRIL 1976

LONG MIDDLE

READING	GRADE	GE N	GE 73	GE N	GE 74	GE N	GE 75	GE N	GE 76	AAQ N	AAQ 73	AAQ N	AAQ 74	AAQ N	AAQ 75	AAQ N	AAQ 76
	6			229	5.3	262	4.3	285	4.2			229	87	262	80	285	79
	7			256	5.7	229	5.1	240	4.9			256	84	229	80	240	79
	TOTAL			485	5.5	491	4.7	525	4.5			485	85	491	80	525	79

MATH	GRADE	GE N	GE 73	GE N	GE 74	GE N	GE 75	GE N	GE 76	AAQ N	AAQ 73	AAQ N	AAQ 74	AAQ N	AAQ 75	AAQ N	AAQ 76
	6			228	5.4	263	4.3	280	4.2			228	88	263	81	280	80
	7			255	6.1	225	5.3	236	4.9			255	88	225	82	236	79
	TOTAL			483	5.8	488	4.8	516	4.5			483	88	488	81	516	80

COMPOSITE	GRADE	GE N	GE 73	GE N	GE 74	GE N	GE 75	GE N	GE 76	AAQ N	AAQ 73	AAQ N	AAQ 74	AAQ N	AAQ 75	AAQ N	AAQ 76
	6			241	5.3	265	4.3	291	4.3			241	87	265	80	291	80
	7			280	5.7	235	5.1	244	4.9			280	84	235	80	244	79
	TOTAL			521	5.5	500	4.7	535	4.6			521	86	500	80	535	80

TABLE 12

IOWA TESTS OF BASIC SKILLS
GE-AAQ BY SCHOOL BY GRADE
APRIL 1973 - MAY 1974 - APRIL 1975 - APRIL 1976

O'KEEFE MIDDLE

		GE								AAQ							
		N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
READING	***GRADE***																
	6			183	5.4	176	5.2	154	5.0			183	89	176	90	154	86
	7			344	6.3	298	5.5	257	5.5			344	89	298	83	257	83
	TOTAL			527	6.0	474	5.4	411	5.3			527	89	474	85	411	84

		GE								AAQ							
		N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
MATH	***GRADE***																
	6			184	5.6	170	5.1	155	5.2			184	91	170	91	155	89
	7			341	6.3	299	5.5	253	5.6			341	90	299	83	253	85
	TOTAL			525	6.1	469	5.3	408	5.5			525	90	469	86	408	87

		GE								AAQ							
		N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
COMPOSITE	***GRADE***																
	6			189	5.5	180	5.2	157	5.1			189	90	180	91	157	88
	7			366	6.2	306	5.4	264	5.5			366	80	306	83	264	84
	TOTAL			555	6.0	486	5.4	421	5.4			555	89	486	86	421	85

TABLE 15

IOWA TESTS OF BASIC SKILLS
GE-AAQ BY SCHOOL BY GRADE
APRIL 1973 - MAY 1974 - APRIL 1975 - APRIL 1976

WALDEN MIDDLE

		GE								AAQ							
READING	**GRADE**	N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
	6	214	4.2	117	4.5	164	4.0	118	3.9	214	79	117	81	164	80	118	77
	7	201	4.9	191	5.2	165	4.3	155	4.6	201	79	191	81	165	74	155	76
	TOTAL	415	4.5	308	4.9	329	4.1	273	4.3	415	79	308	81	329	77	273	77

		GE								AAQ							
MATH	**GRADE**	N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
	6	214	4.5	116	4.7	163	4.2	118	4.2	214	83	116	84	163	80	118	81
	7	196	5.2	191	5.4	163	4.7	154	4.8	196	82	191	83	163	78	154	79
	TOTAL	410	4.8	307	5.2	326	4.4	272	4.5	410	82	307	84	326	80	272	80

		GE								AAQ							
COMPOSITE	**GRADE**	N	73	N	74	N	75	N	76	N	73	N	74	N	75	N	76
	6	219	4.3	119	4.6	165	4.1	120	4.0	219	80	119	83	165	82	120	79
	7	202	5.0	197	5.5	168	4.4	157	4.7	202	80	197	83	168	76	157	77
	TOTAL	421	4.6	316	5.2	333	4.3	277	4.4	421	80	316	83	333	79	277	78

In FY '75 the evaluation scales were the only instruments administered other than the ITBS. The results were similar to those found in FY '74 in that the main focus was on strengths and weaknesses of the program. However, there were many favorable comments including the fact that DICEP seemed to be accomplishing the goal of individualizing instruction to meet individual needs of pupils.

For FY '76 the Iowa Tests of Basic Skills (ITBS) was again used as the main instrument for evaluation. Since the majority of pupils in all middle schools were involved in some DICEP activities, it was impossible to have an experimental and control group in each school. Also, since the schools serve different pupil populations with different socioeconomic backgrounds, a comparison of one middle school with another is not totally justified; however, certain trends in the achievement of pupils might be examined on the measures of reading, mathematics, and composite subtests. In Tables 8 through 15, the mean grade equivalent (GE) and age achievement quotient (AAQ) scores are shown for reading, mathematics, and composite subtests. These tables are taken from "An Assessment of Pupil Achievement In An Individualized Testing Program, April 1976," Research and Evaluation Report, Vol. X, No. 1, prepared by Dr. Carole McCarson.

For the sake of brevity, only the composite AAQ test scores will be compared for each of the eight middle schools for the years 1975 and 1976, since out-of-level testing was initiated in 1975. (Remember that in the calculations of the AAQ, the denominator is the actual age of pupils.) At Coan, the composite AAQ decreased by three points for grade six, increased by two points for grade seven, with an overall increase of one point for the two years. At Kennedy, the composite AAQ increased by one point for grade six, remained the same for grade seven, with the total remaining the same for the two years. At King, the composite AAQ increased by three points for grade six, increased by one point for grade seven, with an overall increase of two points. At Long, the composite AAQ remained the same for grade six, decreased by one point for grade seven, with the total remaining the same. At O'Keefe, the composite AAQ decreased by three points for grade six, increased by one point for grade seven, with an overall decrease of one point. At Parks, the composite AAQ increased by one point for grade six, decreased by three points for grade seven, with an overall decrease of one point. At Sutton, the composite AAQ decreased by one point for grade six, increased by one point for grade seven, with an overall decrease of one point. At Walden, the composite AAQ decreased by three points for grade six; increased by one point for grade seven, with an overall decrease of one point.

In summary, regarding a comparison of the 1975 and 1976 composite AAQ scores, three of the middle schools (Coan, O'Keefe, and Walden) had a decrease of three points each for the sixth grades, and Sutton had a decrease of one point for the same grade level. King had a three-point increase for the sixth grade, both Kennedy and Parks had a one point increase, and Long remained the same. For the seventh grades, King, O'Keefe, Sutton, and Walden had an increase of one point each; Coan increased by two points; Parks decreased by three points; Long decreased by one point; and Kennedy remained the same. On the total composite AAQ, four of the middle schools, (O'Keefe, Parks, Sutton, and Walden) decreased by one point each; Kennedy, and Long remained the same; King increased by two points; and Coan increased by one point. These comparisons may be used as indicators that the middle schools in general need to improve in the academic area, especially when only two schools showed an increase in total composite AAQ over the past year. Also, it must be noted that if the pupils' test performance had been the same as the average test performance of pupils' of the same age group, the AAQ would have been 100. Only one middle school had a total composite AAQ of above 90 for FY '76, and the other seven had scores of 85 or below.

Additionally, two other comparisons were made. First, pupils were selected who had been taught by a teacher who seemed to implement the DICEP model to a great degree in each of two middle schools. (The group was labeled the DICEP pupils.) This was actually one class of pupils who had been heterogeneously grouped. Another class of heterogeneously grouped pupils were chosen who had been taught by a teacher who implemented the model to a lesser degree in the same two schools. (The group was labeled the comparison pupils.) The two groups were compared in reading. Then, pupils were selected in a similar manner from two schools for mathematics. In other words, the DICEP pupils were compared with another group (the comparison pupils) in the same school. The pupils were matched on AAQ scores in 1975, considered as the pretest. Then, the comparison was made on gains between 1975 and 1976 testing. Table 16 shows the results of these comparisons.

TABLE 16

COMPARISON OF PUPILS TAUGHT BY TEACHERS GREATLY IMPLEMENTING DICEP VS. PUPILS TAUGHT BY TEACHERS IMPLEMENTING DICEP TO A LESSER DEGREE

Reading

	School A					School B			
	1975 AAQ	1976 AAQ	Gain	t		1975 AAQ	1976 AAQ	Gain	t
DICEP (N=32)	100.2	96.9	-3.2	1.45	(N=26)	104.3	98.3	-5.9	-1.29
Control (N=19)	90.8	83.4	-7.3		(N=27)	109.9	109.3	- .5	

Mathematics

	School C					School D			
	1975 AAQ	1976 AAQ	Gain	t		1975 AAQ	1976 AAQ	Gain	t
DICEP (N=20)	101.1	94.8	-6.3	2.02*	(N=22)	112.0	112.0	--	2.00
Control (N=23)	80.9	77.6	-3.3		(N=24)	108.6	104.6	-3.8	

*Significant at .05 level.

It can be seen that at school A the DICEP pupils scored better in reading than the comparison pupils in the same subject area; however, at school B the reverse was true. In comparing the mathematics achievement, similar results were found. At school C, the comparison pupils scored better than the DICEP pupils in the area of mathematics; however, in school D, the reverse was true. (Three of the middle schools were involved in the comparisons. One of the schools in the reading comparison was also used for comparison in mathematics.)

Additionally, the results were further analyzed. Since the comparison was made on AAQ scores (a measure which compares the student's actual test performance to the performance of other students who are the same age), in two of the instances students in the sixth grade were compared with seventh grade pupils in the middle school settings. In both cases the seventh grade comparison pupils gained more in AAQ than the DICEP pupils. One comparison was in reading and the other in mathematics. When DICEP sixth grade pupils were compared with the comparison sixth grade pupils in mathematics, the group labeled DICEP made greater gains. Also, when some sixth and seventh grade DICEP pupils were compared with seventh grade comparison pupils, the group labeled DICEP made greater gains in reading. Thus, the results do not clearly indicate any differences in those pupils taught by teachers implementing DICEP to a great degree or that the grade level makes the difference. The results may, however, point to the fact that since the majority of middle school teachers have been involved in staff development and exposed to the DICEP model, the teachers may be attempting to use the DICEP model to the degree that they believe meets the needs of their pupils. Additionally, it might be noted that the samples used were smaller than desired. It is suggested that for similar comparisons more teachers should be observed.

A second comparison was made between the elementary and middle school pupils in grades six and seven. The entire middle school population of 1,620 pupils having both 1975 and 1976 scores in the areas of reading, mathematics, and composite on the Iowa Tests of Basic Skills was compared with a matching number of randomly selected elementary school pupils. The elementary pupils chosen for the random sample were not matched on the 1975 pretest scores with middle school pupils; however, the mean pretest scores for the two groups were within one month of each other on grade equivalent (GE) scores and within one percentage point of each other on age achievement quotient (AAQ) scores in the three areas for both grades. The results are shown in Table 17.

It can be seen that both the sixth and seventh grade elementary pupils made greater gains in reading, mathematics, and composite test scores than did the middle school pupils. The GE scores and AAQ scores reflect this difference in favor of the elementary school pupils. Also results of a t-test analysis on these differences showed that there was a statistically significant difference at the .01 level in the groups in favor of the elementary pupils. It should be noted, however, that the seventh grade pupils who had been in a middle school for a year did not show the great differences between their scores and those of the elementary pupils as had been shown when comparing elementary and middle school pupils for sixth grade.

Principals were given an opportunity (on a voluntary basis) to help assess the value of Dynamics and Influences of Culture and Environment Program (DICEP) in their individual schools for FY '76. Five of the eight principals responded. The questions and a summary of responses were as follows:

A. Question — In your opinion, what has been the greatest value of DICEP in your school?

Responses — Individualization of instruction; teacher training; designed for multi-grade levels; having a wealth of materials; instructional management system inclusive of the materials, resources, and support personnel; curriculum assistance; and assistant teachers.

B. Question — Have you had any positive statements or comments from parents of pupils in DICEP about the program?

☐ Yes ☐ No

Responses — All five principals responded "yes." If yes, briefly summarize the statements.

1. Students speak favorably of the materials with which they are working.

TABLE 17

ACHIEVEMENT OF ELEMENTARY VERSUS MIDDLE SCHOOL STUDENTS
IOWA TESTS OF BASIC SKILLS (ITBS)
1975-76

Sixth Grade

	Reading		Math		Composite	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
N	1,620	1,620	1,620	1,620	1,620	1,620
GE						
75	4.1	4.0	4.1	4.1	4.2	4.1
76	4.7	4.3	4.7	4.4	4.8	4.4
Gain	0.6	0.3	0.6	0.3	0.6	0.3
	t = 11.16* (df = 3238)		t = 9.06* (df = 3238)		t = 11.36* (df = 3238)	
AAQ						
75	87	86	88	88	88	88
76	85	81	85	83	86	83
Gain	-2	-5	-3	-5	-2	-5
	t = 9.71* (df = 3238)		t = 7.88* (df = 3238)		t = 11.26* (df = 3238)	

Seventh Grade

	Reading		Math		Composite	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
N	1,684	1,684	1,684	1,684	1,684	1,684
GE						
75	4.5	4.4	4.6	4.6	4.7	4.6
76	5.2	4.9	5.3	5.1	5.3	5.0
Gain	0.7	0.5	0.7	0.5	0.6	0.4
	t = 4.49* (df = 3366)		t = 4.75* (df = 3366)		t = 5.57* (df = 3366)	
AAQ						
75	83	82	85	85	85	84
76	82	79	83	82	83	81
Gain	-1	-3	-2	-3	-2	-3
	t = 5.35* (df = 3366)		t = 6 04* (df = 3366)		t = 7.09* (df = 3366)	

*Statistically significant at the .01 level.

2. Most students thoroughly enjoy the materials, especially the film loops.

3. Students are fascinated with the study of baboons and salmon (Man A Course of Study), and the retention seems to be greater.

4. The program fits the individuals.

5. Parents like the individualization of instruction and contract learning.

6. The program provided adequate supervision and allowed many opportunities for self-expression.

C. Question Do you plan to continue with components of the DICEP model next year?

☐ Yes ☐ No

All five principals responded "yes." If yes, please specify what components.

Responses

1. Man A Course of Study (MACOS)

2. Mathematics

3. Reading

4. Contracts

5. Individualized instruction

6. The same procedure will be used as in previous years.

7. MACOS, Wisconsin Reading Design, Core, and Math Contracts and the accompanying materials.

Comments

1. DICEP has been one of the better programs in our schools.

2. DICEP and middle school curriculum development are parallel in the goal of meeting the needs of middle schoolers.

Two research assistants observed in two of the middle schools. A total of seven different classes were observed during May 1976 with the Observation Checklist For Individualization and Personalization. The results ranged from very positive in the fact that the DICEP model was being implemented to a great degree, or relatively great degree, in five of the seven classes to the fact that the model was not being implemented at all in two of the classes.

VII. COST EFFECTIVENESS

According to the Trust and Agency Report of June 30, 1976, the average daily participants for Dynamics and Influences of Culture and Environment Program (DICEP) totaled 4,194. This means that the expenditures per participant amounted to only $86.22 for DICEP. In other words, the indirect costs per participant amounted to $31.66 and the direct costs per participant amounted to $54.56.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Dynamics and Influences of Culture and Environment Program (DICEP) was in operation for five consecutive years. With the expansion of the program from one middle school in FY '72 to eight middle schools during FY '74, the personnel in DICEP had a tremendous task. Nevertheless, there were many accomplishments by DICEP personnel. Based upon the data and upon discussions between the school faculties and the research assistant, the following conclusions and recommendations are made:

A. At the end of FY '72, the effects of teaching with multi-media packets, developed in DICEP, versus the textbook method were tested, and the pupils using the packets developed in DICEP proved more successful.

B. At the end of FY '73, the pupils in DICEP scored higher on two criterion-referenced tests than did the two control groups. Teachers of DICEP pupils rated their pupils more positively than did the teachers of the control group on a rating scale; there were

positive ratings on attitude scales by pupils; and there were positive ratings by teachers and pupils about DICEP on two evaluation scales.

C. At the end of FY '74, the pupils in DICEP made average gains of two months more in reading and mathematics and three months more on the composite test scores of the ITBS than did a control group of pupils; the DICEP pupils made a more positive rating than did the control group about themselves, other pupils, teachers, school administration, and the school as a whole on the Student Attitude Scale; the teachers in the DICEP rated their pupils more positively than did the teachers of the control group on the Florida Key. Results from evaluation scales showed definite strengths and weaknesses of the program, it was found that pupils expressed knowledge of participation in the type of activities that it was desirable to have in DICEP more often than did the control group of pupils; and observations were generally very favorable concerning the activities in the DICEP classrooms.

D. From FY '72 through FY '74, the emphasis was on developing curriculum for middle school pupils and testing the effectiveness of the DICEP model in situations where it was possible to control variables; however, beginning with school year FY '75, this was no longer the case.

E. At the end of FY '75, in which the implementation of the DICEP model was stressed, the sixth grade pupils in elementary schools made slightly greater gains, as measured by the ITBS, than did the middle school pupils in reading, mathematics, and on the composite test scores; and the evaluation scales again showed both strengths and weaknesses of the program including the fact that DICEP seemed to be providing individualized instruction.

F. At the end of FY '76, in which the emphasis was on staff development and the assembly of curricular materials, no differences were found in the gains of a small sample of sixth and seventh graue pupils taught by teachers implementing DICEP to a great degree and those pupils taught by teachers implementing DICEP to a lesser degree. Sixth and seventh grade pupils in the elementary schools made greater gains in reading, mathematics, and composite test scores than did the middle school pupils and the results of a t-test analysis showed these differences to be statistically significant at the .01 level; principals responded positively to a questionnaire about DICEP; and research assistants found implementation of the DICEP model in five of seven classes visited in two middle schools.

G. Additionally, an examination of the composite AAQ test scores on the ITBS substantiates the fact that the middle schools need to improve in the academic area, and each school should carefully analyze its situation and take definitive and systematic steps to improve pupil performance.

H. Since much data have been collected for DICEP during the past five years (FY '72 through FY '76), the information gleaned from analysis of data should be carefully studied by the coordinator for middle schools and the staff in each of the eight middle schools.

I. Since the results for DICEP were very positive when the emphasis was on testing the effectiveness of the model with a smaller number of pupils, it would be wise to examine whether or not implementation of the DICEP model was spread too rapidly to too many pupils during FY '75 and FY '76.

J. It must be noted that there were several changes in the central DICEP staff within the past two years (FY '75 — FY '76) which resulted in a reduction of staff members, and the results of the reduction should be carefully analyzed.

K. In acquiring evidence of support (on the checklist for DICEP) from the school, area, and central administrative staffs for the middle school concepts, it was found that more support was definitely needed.

L. During the final year, DICEP utilized much of its resources in support of IGE. The reasons were that IGE provides a management system for the total school; the goals of IGE are highly compatible with DICEP; and IGE seems to offer some promise that the materials and concepts developed by DICEP might continue to be used in the middle schools.

M. According to a nationally recognized middle school specialist, it would be advantageous to middle schools to have some support services of the kind offered by DICEP along with IGE.

N. More than one-half of all middle school personnel have had training in IGE; however, if IGE is to be fully implemented, it would seem necessary that all personnel have the in-service training.

O. The central staff, principals, teachers, and assistant teachers who worked with middle school pupils during the operation of DICEP should be commended for their accomplishments.

P. There are several indicators that components of DICEP do promote pupil achievement when these components are properly implemented and consistently pursued over a period of time.